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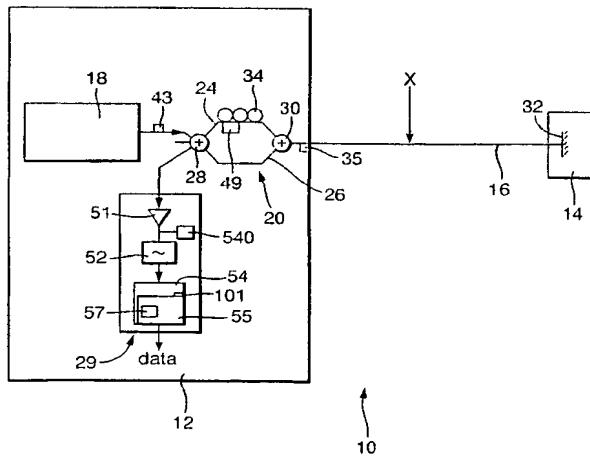
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*[Continued on next page]*

(54) Title: EVALUATING THE POSITION OF A DISTURBANCE



(57) **Abstract:** The present invention relates to a method of and apparatus for evaluating the position of a disturbance on an optical link, in particular where the disturbance is a time-varying disturbance. An optical time domain reflectometry technique in which a series of low coherence test pulses is launched into an the optical link, and the backscattered return signal is monitored. The test pulses pass through an unbalanced Mach-Zehnder interferometer with the result that for each test pulse, a pair of time-displaced pulse copies is launched onto the link. The backscattered return signal is passed through the same interferometer, which causes the pulse copies of each pair to become realigned and to interfere with one another. A time-varying disturbance is likely to affect each pulse copy of a pair differently. As a result, an abnormality such as a step is likely occur in the backscattered signal. From the time position of an abnormality, the distance of the disturbance responsible is evaluated.

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